UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/687,450	10/13/2000	Namik Hrle	STL000048US1	1339

			EXAMINER
23373	7590	02/23/2004	WU, YICUN

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ART UNIT	PAPER NUMBER
2175	

DATE MAILED: 02/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)	
Office Action Summary	09/687,450	HRLE ET AL.	
	Examiner	Art Unit	
	Yicun Wu	2175	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 October 2000*.

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-90* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-90* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

DIANE D. MIZRAHI
PRIMARY PATENT EXAMINER
TECHNOLOGY CENTER 21c

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>2</u>.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

III. DETAILED ACTION

1.   Claims 1-90 are presented for examination.

Claim Objections

2.   Claims 26-27 and 56-57 and 86-87 is objected to because of

the following informalities: the Examiner is not clear about

the meaning of the claim.   "...volume."

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3.   The following is a quotation of the appropriate paragraphs

of 35 U.S.C. 102 that form the basis for the rejections under

this section made in this Office action:

> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed
> in the United States before the invention by the applicant for patent or (2) a patent granted on an application for
> patent by another filed in the United States before the invention by the applicant for patent, except that an
> international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this
> subsection of an application filed in the United States only if the international application designated the United
> States and was published under Article 21(2) of such treaty in the English language.

> (e) the invention was described in a patent granted on an application for patent by another filed in the United
> States before the invention thereof by the applicant for patent, or on an international application by another who
> has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention
> thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999

(AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002

do not apply when the reference is a U.S. patent resulting directly or indirectly from an

international application filed before November 29, 2000. Therefore, the prior art date of the

reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA

35 U.S.C. 102(e)).

3.   Claims 1-90 are rejected under 35 U.S.C. 102(e) as being

anticipated over Lyle et al., (U. S. Patent No. 6,651.073).

As to Claims 1, 31 and 61, Lyle et al. discloses a method

of recovering data in a database of a database system stored in

a datastore connected to a computer, the method comprising:

scanning a database log, wherein the database log records

activities related to the database; and identifying one or more

individual objects to be recovered to a target time with

reference to a backup time (Lyle et al. col. 8, lines 26-48).

As to Claims 2, 32 and 62, Lyle et al. discloses a method

wherein the target time is user-defined (user-defined is well

known in the art).

As to Claims 3, 33, and 63, Lyle et al. discloses a method wherein the backup time is user-defined (user-defined is well known in the art).

As to Claims 4, 34 and 64, Lyle et al. discloses a method further comprising analyzing the database log to detect when a unit of recovery begins and when the unit of recovery ends (Lyle et al. col. 8, lines 26-48).

As to Claims 5, 35 and 65, Lyle et al. discloses a method wherein an object is not recovered when the unit of recovery accessing that object ends before the target time and there are no pending writes for the object (i.e. writes all changed data pages to disk)(Lyle et al. col. 7, lines 45-62).

As to Claims 6, 36, and 66, Lyle et al. discloses a method wherein the unit of recovery begins and ends before a checkpoint time, and wherein the checkpoint time occurs before the target time (Lyle et al. col. 8, lines 26-48).

As to Claims 7, 37, and 67, Lyle et al. discloses a method wherein the unit of recovery begins before a checkpoint time,

and wherein the unit of recovery ends after the checkpoint time but before 3 the target time (Lyle et al. col. 8, lines 26-48).

As to Claims 8, 38 and 68, Lyle et al. discloses a method wherein the unit of recovery begins after a checkpoint time, and wherein the unit of recovery ends before the target time (Lyle et al. col. 8, lines 26-48).

As to Claims 9, 39 and 69, Lyle et al. discloses a method wherein an object is recovered if the unit of recovery begins before the target time, and wherein the unit of recovery ends after the target time but before a current time, wherein the current time represents when object data is recorded to the database (Lyle et al. col. 8, lines 26-48).

As to Claims 10, 40 and 70, Lyle et al. discloses a method wherein the unit of recovery begins before a checkpoint time (Lyle et al. col. 8, lines 26-48).

As to Claims 11, 41 and 71, Lyle et al. discloses a method wherein the unit of recovery begins after a checkpoint time but before the target time (Lyle et al. col. 8, lines 26-48).

As to Claims 12, 42 and 72, Lyle et al. discloses a method wherein an object is recovered if the unit of recovery begins after the target time, and wherein the unit of recovery ends before a current time, wherein the current time represents when object data is recorded to the database (Lyle et al. col. 8, lines 26-48).

As to Claims 13, 43 and 73, Lyle et al. discloses a method wherein a backup is taken (Lyle et al. col. 7, lines 45-62).

As to Claims 14, 44 and 74, Lyle et al. discloses a method wherein the backup occurs prior to the target time and further comprising restoring data without restoring the database log (Lyle et al. col. 6, lines 60-67).

As to Claims 15, 45 and 75, Lyle et al. discloses a method wherein the backup occurs after the target time and further comprising restoring data and optionally restoring the database log (Lyle et al. col. 7, lines 45-62) and (Lyle et al. col. 8, lines 26-48).

As to Claims 16, 46 and 76, Lyle et al. discloses a method further comprising restarting the database system with a

conditional restart with defer all option   (i.e. restart

routine)(Lyle et al. col. 8, lines 26-48).

As to Claims 17, 47 and 77, Lyle et al. discloses a method

further comprising flushing cache data to disk (Lyle et al. col.

8, lines 18-25).

As to Claims 18, 48 and 78, Lyle et al. discloses a method

further comprising truncating the database log at the target

time)(Lyle et al. col. 8, lines 26-48).

As to Claims 19, 49 and 79, Lyle et al. discloses a method

further comprising disabling access to the database and

restarting the database system, wherein restarting detects

uncommitted units of recovery (Lyle et al. col. 8, lines 26-48).

As to Claims 20, 50 and 80, Lyle et al. discloses a method

further comprising creating a compensation log and appending the

compensation log to the truncated database log beginning from

the target time (Lyle et al. col. 8, lines 26-48).

As to Claims 21, 51 and 81, <u>Lyle et al</u>. discloses a method further comprising restoring the identified objects (<u>Lyle et al</u>. col. 8, lines 26-48).

As to Claims 22, 52 and 82 <u>Lyle et al</u>. discloses a method comprising determining whether the database log should be applied to the restored objects to update the identified objects with current object data (<u>Lyle et al</u>. col. 8, lines 26-48).

As to Claims 23, 53 and 83, <u>Lyle et al</u>. discloses a method when the determination is made to apply the database log to the identified objects, further comprising

optimizing (optimizing is well known in the art) the identified objects such that the identified objects may be restored without applying the database log to the identified objects (<u>Lyle et al</u>. col. 6, lines 60-67).

As to Claims 24, 54 and 84, <u>Lyle et al</u>. discloses a method if the objects can not be optimized, applying the database log to the restored objects (<u>Lyle et al</u>. col. 8, lines 26-48).

As to Claims 25, 55 and 85, <u>Lyle et al</u>. discloses a method after restoring the identified objects, further comprising

providing access to the identified objects (providing access is inherent and well known).

As to Claims 26, 56 and 86, Lyle et al. discloses a method further comprising optimizing the identified objects by restoring a volume of the datastore and recovering corresponding objects (Lyle et al. col. 8, lines 26-48).

As to Claims 27, 57 and 87 Lyle et al. discloses a method further comprising optimizing the identified objects by grouping the identified objects, wherein the grouped objects have backups residing on the same volume of the datastore (Lyle et al. col. 8, lines 26-48).

As to Claims 28, 58 and 88, Lyle et al. discloses a method 28. The method of claim 1, wherein an object is associated with different units of recovery, wherein one or more units of recovery require different levels of processing, and wherein the object is recovered utilizing the highest level of processing (Lyle et al. col. 8, lines 26-48).

As to Claims 29, 59 and 89, Lyle et al. discloses a method wherein the one or more individual objects to be recovered to a

target time are recovered from a current time (<u>Lyle et al</u>. col.

8, lines 16-48).

As to Claims 30, 60 and 90, <u>Lyle et al</u>. discloses a method

wherein the current time represents at time at which the

database system crashed (i.e. failure) (<u>Lyle et al</u>. col. 8,

lines 16-26).

Prior Art Made of Record

4.   The prior art made of record and not relied upon is

considered pertinent to applicant's disclosure.

 Haderle et al (U.S. Patent No. 5,561,798);

Sherman et al (U.S. Patent No. 5,832,508).

Conclusion

5.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yicun Wu whose telephone number is 703-305-4889. The examiner can normally be reached on 8:00 am to 4:30 pm, Monday -Friday.
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dov Popovici can be reached on 703-305-3830. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-746-7240 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

DIANE D. MIZRAHI
PRIMARY PATENT EXAMINER
TECHNOLOGY CENTER 2100

Yicun Wu
Patent Examiner
Technology Center 2100

February 10, 2004